

2020 // PRODUCT LINEUP

# FULLY INTEGRATED SYSTEMS FOR PROFESSIONALS





mdLiDAR  
3000



## ANOTHER END-TO-END LiDAR OPTION

The complete package to add unmanned aerial LiDAR to your geomatics services.

The mdLiDAR3000 uses the lifting power, resilience and efficiency of the Microdrones aircraft platform to carry a perfectly integrated Riegl miniVUX-2UAV and a Sony RX1R II camera. The result? You can quickly acquire high density and accurate LiDAR data in the field and efficiently turn it into a 3D colorized pointcloud back at the office or on your laptop.

mdLiDAR3000 is an end-to-end LiDAR solution combining a drone, a LiDAR payload, a fully integrated software workflow, and world class support to consistently provide quality deliverables.



Riegl miniVUX-1UAV

A perfectly integrated Riegl miniVUX-2UAV paired with a 42.4 megapixel camera mounted with a custom, lightweight, vibration-free, quick release mount to capture the data you need.

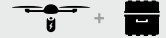


THE mdLiDAR3000 PACKAGE INCLUDES:

PLATFORM



**md4-3000**  
Robust, powerful, stable and dependable. Build your business on this versatile platform.



**Charger, Flight Battery & Carrying Case**  
One md4-3000 flight battery and charger for maximum flight endurance and a field tough carrying case.

COMMUNICATIONS



**mdRC**  
Proven, professional controls and telemetry keep you in control when you need it most.



**Digital Data Link**  
Conveniently connect your Microdrones UAV to your digital devices.

PAYLOAD



**Fully Integrated LiDAR paired with a Sony RX1R II Camera & Quick Connect Mount**  
Choose a perfectly integrated Riegl miniVUX-2UAV paired with a 42.4 megapixel camera.



**Applanix APX-20 UAV DG**  
Compact single-board module with survey-grade GNSS receiver and dual precisely calibrated IMUs for mapping.

SOFTWARE



**mdLiDAR Processing Software**  
Complete point cloud processing and data export, via one integrated software suite and workflow, specially designed for Microdrones mdLiDAR family of systems.



**POSPac UAV DG**  
Direct georeferencing post processing software – used to achieve maximum accuracy and efficiency from data collected by APX-20 UAV DG.



**mdCockpit Tablet Software**  
Simple swipes of the finger help you plan your survey area and monitor progress in flight on your Android tablet.



**mdInfinity Software**  
mdInfinity is available in online and desktop versions.

Easy end-to-end workflow:

PLAN

- Simple mission planning using mdCockpit
- User inputs the point density or flying height and drone speed

FLY

- Fully automated mission execution and real-time mission monitoring using mdCockpit

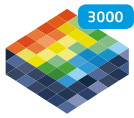
PROCESS

- Thorough georeferencing data processing using the dual-IMU Applanix APX-20 UAV DG and mdInfinity software
- Automated final point cloud processing using mdLiDAR processing software

VISUALIZE

- Final point cloud in standard ASPRS LAS format usable in any GIS or CAD software environment
- Quick and Accurate point cloud colorization using accurate system-produced orthomosaics and a user-friendly, seamless workflow





## mdLiDAR3000 (equipped with Riegl miniVUX-2UAV) technical specs:

### SOLUTION COMPONENTS

#### Platform

md4-3000

#### Payload

- LiDAR Sensor: Riegl miniVUX-2UAV
- Camera: RX1R II
- Georeferencing: Trimble APX-20 UAV DG

#### Software

- mdCockpit
- POSPac UAV DG
- mdLiDAR Processing Software

### TECHNICAL SPECIFICATIONS

#### Solution Take off Weight (TOW)

14823 g

#### System Operational Temperature

-10 °C to 50 °C

#### System Accuracy

- LiDAR Point Cloud:
  - Horizontal: 1-3 cm
  - Vertical: 2 - 4 cm
- Photogrammetry:
  - Horizontal: 1-2 pixels
  - Vertical: 3-4 pixels

### PRODUCT PERFORMANCE

Flight altitude AGL (ft/m)*	130/40	195/60	260/80
Speed (m/s)	Point Density (pts/m <sup>2</sup> )**		
3	320	213	160
4	240	160	120
5	192	128	96
6	160	106	80
GSD (mm)	5.3	8	10.6
Swath Width (ft/m) at 56° FOV	148/45	213/65	279/85
Swath Width (ft/m) at 80° FOV	230/70	328/100	443/135
Number of Laser Returns	5	5	5
Example of a 20-Minute Flight (minutes)***			
Area Coverage at 20% Overlap (ac/ha)****	44.5/18	64/26	84/34
Area Coverage at 50% Overlap (ac/ha)****	27/11	42/17	52/21

\*Flight Altitude Above Ground Level (AGL)

\*\*Average Point density with a 30% overlap

\*\*\*An example of a 20-minute Flight under standard flight conditions

\*\*\*\*Area coverage is computed for an example of a 20-minute survey (3 minutes for take-off and landing) at a drone speed of 5 m/s at 56° Field of View (FOV)